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10/671,778

09/29/2003

Byeong-hwa Ahn

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03/24/2005

STAAS & HALSEY LLP

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WASHINGTON, DC 20005

EXAMINER

LEE, PETER

ART UNIT

PAPER NUMBER

2852

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/671,778

Applicant(s)

AHN ET AL.

Examiner

Peter Lee

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-13 and 15-18 is/are allowed.
- 6) ☐ Claim(s) 1-5, 7, 14 and 19 is/are rejected.
- 7) ☐ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to match up the reference parts as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

It is believed that the wrong sets of drawings were submitted for this particular application. As discussed with the applicant’s attorney, it is believed that the correct drawings are those found in the foreign priority paper of record, Korean application number 1020030039845.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 7, 14, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirst (US 5,627,722) in view of Oguma et al. (US 2002/0064390), and further in view of Osaka (US 5,051,866).

Hirst teaches a high voltage supply (fig. 1 part 101) for use in powering multiple developers in a color electrophotographic printer (abstract 1<sup>st</sup> sentence), the voltage supply device comprising: a switching network (fig. 1 part 102) with a plurality of relays (fig. 2 parts 250-252) for connecting to the developers (col. 2 lines 37-57) (ie. voltage changeover units for selectively supplying the voltage).

Hirst does not teach the developing rollers to have a fixed contact point at one end, nor does he explicitly teaches the developers being set at a fixed distance from a photosensitive drum. Hirst also does not teach explicitly placing the circuits of the invention onto a printed circuit board with input and output terminals.

It is Oguma who teaches a development sleeve (fig. 1 part 12) having a coil spring electrode (fig. 1 part 29b) at one end as a contact portion to supply the development bias (p. 4 paragraph [0053]) (ie. fixed contact point terminal at one end of developing device). The development bias provided through the coil spring is used to power the many parts of the

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development unit (p. 4 paragraph [0053] (ie. plurality of different elements of the developing devices). Oguma further teaches an image forming apparatus (fig. 4) that includes a photosensitive member, and a developing sleeve that is set at a fixed distance from the photosensitive drum (fig. 4 and fig. 5). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the developers taught by Hirst to have the coil spring electrodes at one end as taught by Oguma. One of ordinary skill in the art would have been motivated to do so in order to provide a more stable development bias voltage, and to ensure a more stable electric contact (p. 1 paragraph [0013] and [0015]). It is noted that the claim limitations call for a plurality of fixed contact terminals and a plurality of color developing devices. However, it is notoriously well known in the art to take a monotone image forming apparatus such as that taught by Oguma and make it a color image forming apparatus, upon which the “plurality” limitation will be met.

It is Osaka who teaches placing a power supply circuit for an image forming apparatus onto a printed circuit board (fig. 1; note: col. 2 lines 56-64). Osaka teaches the printed circuit board to have at one end an input connector for inputting from a power source (fig. 1 part 23) (ie. plurality of fixed contact terminals, PCB input terminal), and at the other end having output connectors (fig. 1 part 24) (ie. PCB output terminal) for selectively outputting the power to different parts of the image forming apparatus (col. 4 lines 3-31). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention taught by Hirst in view of Oguma, by placing the various power circuits onto a printed circuit board as is taught by Osaka, and having the inputs connected to the high voltage power supply taught in Hirst. By combining the references as such, the output terminals found on the printed

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circuit board of Osaka can be easily connected to the coil spring electrode taught by Oguma (ie. terminal connecting parts connecting the PCB output terminals and the fixed contact point terminals). One of ordinary skill in the art would have been motivated to do so in order to reduce an overall size of the apparatus (col. 3 lines 13-18).

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

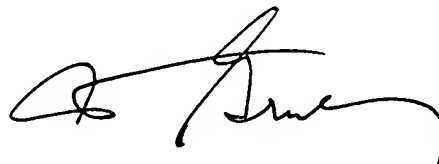
Wakamatsu et al. (US 6,694,117) is being cited for teaching a solenoid that is powered by a power supply to turn a ratchet arrangement that brings a developer in and out of contact with a photosensitive drum.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Lee whose telephone number is 571-272-2846. The examiner can normally be reached on mon-fri 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on 571-272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PL 3/16/05



**Arthur T. Grimley**  
Supervisory Patent Examiner  
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